

REMARKS

The Amendments

The non-elected claims pursuant to the restriction requirement are canceled. It is submitted that the above amendments materially reduce or simplify the issues for appeal. The amendments do not raise new issues or present new matter. Accordingly, it is submitted that the requested amendments should be entered. The amendments should not be interpreted as an acquiescence to the restriction requirement. Applicants reserve the right to file one or more continuing and/or divisional applications directed to any subject matter disclosed in the application which has been canceled by the above amendments.

The Rejections Under 35 U.S.C. § 103

The rejections of claims 1, 3, 7, 11, 13 and 17 over Imaizumi (U.S. Patent No. 4,902,357) in view of Ohashi (U.S. Patent No. 4,992,234) and of claims 2, 6, 8, 12, 14 and 16 over Takebuchi (U.S. Patent No. 5,595,608) in view of Imaizumi and Ohashi under 35 U.S.C. § 103 for obviousness, are respectfully traversed.

Applicants maintain their remarks traversing these same rejections made in the Reply filed May 9, 2003. The following additional comments are provided to clarify or emphasize key points and address the "Response to Arguments" made in the Final Office Action.

Applicants take issue with the unsupported accusation in the Office Action that they "have not presented arguments regarding the combination of references but rather have argued against each of the references individually." The following quotes from applicants' last Reply make clear that the combined teachings of the references were addressed:

"Thus, even if assumed for argument that Takebuchi meets the mother alloy and auxiliary alloy recitations of the claims, it fails to teach or suggest the method of claim 2 when viewed in combination with Imaizumi."

“Ohashi fails to make up for the deficiencies of Imaizumi and Takebuchi noted above.”

“Accordingly, viewing the teachings of all the references as a whole, there is no suggestion therefrom of a method involving the steps of...”

“Imaizumi, contrary to suggesting applicants’ invention or the advantages thereof, would direct one of ordinary skill in the art away from modifying their process to arrive at applicants’ invention or recognize the advantages thereof. Takebuchi and Ohashi do not even disclose a final heat treating step and, thus, teach nothing regarding oxygen exclusion in such step. Accordingly, the advantage shown by applicants for the final heat treating step after cutting the finished product could not have been expected from the prior art.”

“[I]t is respectfully submitted that no combination of the teachings of Imaizumi, Takebuchi and/or Ohashi renders any of the instant claims obvious to one of ordinary skill in the art.”

That the individual teachings of the references were also discussed is not improper and does not imply that the combined reference teachings were not addressed. To the contrary, it is submitted that a proper analysis requires assessing the individual teachings of the references and then assessing their combined teachings, to the extent that there is motivation to make such combinations. Additionally, in cases where there is no motivation to combine the references in the first place, omitting addressing the combination of references is not improper. The allegation that applicants did not address the combination of references – and, thus, the implication that applicants and their representative are ignorant of this basic tenet in the law – should not be made lightly. Here, the allegation in the Final Office Action that applicants did not present arguments on the combination of references is not supported by the facts. The allegation should be withdrawn and not used as a basis for minimizing applicants’ arguments.

Contrary to the recitations of the rejection in the Final Office Action on pages 5 and 8, Imaizumi’s method, up to the making of the intermediate product, is not the same as that recited in the instant claims. Imaizumi’s method does not conduct the initial step of crushing

the alloy in an oxygen-free atmosphere. Thus, it would not have been expected that the Imaizumi product would have the same low oxygen content properties as the intermediate product of the instant claims.

It is alleged in the Office Action that the steps of pulverizing an alloy in an oxygen-free environment were conventional and taught by Ohashi and Takebuchi. Assuming this is true, it does not necessarily mean that one of ordinary skill in the art would have been motivated from such teachings to alter the Imaizumi process to pulverize in an oxygen-free environment to obtain such specific low oxygen content. Ohashi may teach that it is necessary and desirable for the purposes of their processes but Ohashi and Takebuchi teach nothing at all regarding treating the magnets after the machining step. Thus, one of ordinary skill in the art is not taught that pulverizing in an oxygen-free environment is necessary or desirable when the process involves a post-machining heat treatment with a low partial pressure of oxygen and/or nitrogen. To the contrary, the conventionality of pulverizing in an oxygen-free environment suggests that the Imaizumi inventors would have been fully aware of that possibility but purposefully avoided it. This suggests that they found it unnecessary or undesirable for their method, thus, teaching away from applicants' invention. Accordingly, applicants maintain their position that the combined reference teachings fail to suggest modifying Imaizumi so that its step of pulverizing/crushing the alloy is in an "oxygen-free atmosphere of argon, nitrogen or vacuum" or that the product obtained after crushing, compacting, sintering would have a low oxygen concentration of "up to 8.0% by weight."

Regarding the claimed step of "heat treating the sintered magnet with a finished surface in an argon, nitrogen or low-pressure vacuum atmosphere having an oxygen partial pressure of 10^{-6} to 10^0 torr for 10 minutes to 10 hours at a temperature of 200 to 1,100°C" after cutting and/or polishing to a finished surface, Ohashi and Takebuchi teach nothing at all

regarding such a step. All the steps in Ohashi and Takebuchi take place before any cutting, polishing or other finishing of the sintered product. It is recognized that Imaizumi teaches certain steps after machining of the sintered product, including the possibility of solution heat treating in an oxygen and/or nitrogen atmosphere. However, there is no particular disclosure of the progression of steps of sintering, aging, cutting and/or polishing to a finished surface, and heat treating after the compaction, recited in claims 1 and 2. Imaizumi discloses three possible progressions at col. 2, lines 1-13. These are: 1) sintering, machining, solution treating and aging, 2) sintering, solution treating, machining and aging, and 3) sintering, machining, re-sintering. Thus, the only reference relating to post-machining processing does not disclose the same steps recited in the instant claims.

Additionally regarding instant claim 2, there is no particular suggestion that one of ordinary skill in the art would have been motivated to apply such after-machining steps to the products of the Takebuchi method. Takebuchi focuses on particle size and formation of a "grain boundary" in preparing and treating the sintered product to provide a stable magnet. There is no suggestion that post-machining steps would be necessary or desirable in the Takebuchi method. To the contrary, machining after forming the "grain boundary" would appear to be detrimental in that it would remove some or all of the desired boundary surface. When such machining is undesired, it is clear that post-machining steps would not be suggested. This provides a further basis for patentability of claim 2.

Additionally regarding claims 7 and 8, Imaizumi discloses no method wherein the heat treatment in an atmosphere having an oxygen partial pressure of 10^{-6} to 10^0 is at a temperature of 300 to 600°C. All of the methods taught in Imaizumi require a solution treatment in the nitrogen and/or oxygen atmosphere at a temperature of 900 to 1200°C; see also the Imaizumi examples. There is no suggestion that the advantageous results of the

current invention could be obtained with such a treatment at the more convenient temperatures of 300 to 600°C.

Regarding the evidence of unexpected advantages shown in applicants' specification, applicants maintain that the comparative data are significant in showing at least one advantageous aspect of the claimed invention. Particularly, the advantage of the invention over the Ohashi and Takebuchi methods, which have no final heat treating step as in the instant claims, is established. That only one example of the claimed invention is provided does not necessarily mean the evidence cannot be convincing. Although it may effect the weight accorded the evidence, the fact that there is only one example does not mean that the evidence is dismissed. The comparison is sufficient to show the advantageous results directly from the distinguishing step of the process and, thus, is significant. Applicants have discovered that the method recited in the claims leads to advantageous magnets which, particularly, exhibit excellent corrosion resistance in the presence of lubricating oils – such as encountered when the magnets are used in motor applications. This advantage is disclosed in the specification; see, e.g., page 2, line 34, to page 3, line 8, of the instant specification.

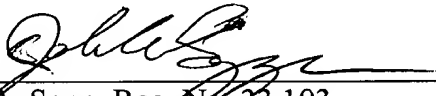
Upon further review, applicants withdraw their comments made in the previous Reply which may imply that the claimed invention does not also use an oxygen-containing atmosphere in the final heat treating step. This point was confused with the early pulverizing step which does exclude oxygen. Any confusion is regretted.

For the above reasons, it is respectfully submitted that no combination of the teachings of Imaizumi, Takebuchi and/or Ohashi, when viewed together with the evidence of nonobviousness, renders any of the instant claims obvious to one of ordinary skill in the art. Thus, the rejections under 35 U.S.C. § 103 should be withdrawn.

It is submitted that the application is in condition for allowance. But the Examiner is kindly invited to contact the undersigned to discuss any unresolved matters.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



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